

(385) 207-2699

Report of Findings

Jetson Fire Origin & Cause Claim Number: 5015617702

Rimkus Matter No: 100162188

Prepared For: McCoy Leavitt Laskey, L.L.C. 1805 Rio Grande Boulevard Albuquerque, NM 87104

Attention: Mr. Eugene LaFlamme

Digitally signed by: Joseph R Filas Date: 2024.09.13 12:16:14 -07'00'

Joseph Filas, IAAI-CFI (V), NAFI-CFEI Senior Fire Consultant

September 12, 2024 EXHIBIT A

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Section I INTRODUCTION

On Tuesday, February 1, 2022, a fire occurred to a residential structure located at 1620 Highway 374 in Green River, Wyoming. The residential structure was owned by Ms. Ramona Nuttall. The structure was occupied by Mr. Matthew Wadsworth, Ms. Stephanie Wadsworth, and their four children Kamille Wadsworth, Gunner Wadsworth, Layne Wadsworth, and Weston Wadsworth. Jetson Electric Bikes manufactured a hoverboard that was purchased by the Wadsworth's at Wal-Mart.

On March 8, 2022, Mr. Eugene LaFlamme with McCoy Leavitt Laskey, L.L.C., on behalf of Jetson, retained Rimkus to determine the origin and cause of the fire. Joseph R. Filas, IAAI-CFI (V), NAFI-CFEI, Senior Fire Consultant, attended a joint inspection of the structure on May 18, 2022. Mr. Brian Strandjord, with Advanced Engineering Investigations, attended the joint inspection on behalf of McCoy Leavitt Laskey, L.L.C. Ms. Cristal VanDongen with IC Specialty Services, and Mr. John Palmer with Palmer Engineering & Forensics conducted the joint inspection on behalf of Farmers Insurance Company who insured the property for Ms. Nuttall. Mr. Michael Schulz with M.J. Schulz & Associates attended on behalf of Goody Law Group and the Wadsworth family. A list of additional participants is available upon request.

Joseph R. Filas, IAAI-CFI (V), NAFI-CFEI, Senior Fire Consultant, attended an additional joint inspection of the structure on August 2, 2022, and August 3, 2022. Mr. Strandjord with Advanced Engineering Investigations attended the joint inspection on behalf of McCoy Leavitt Laskey, L.L.C. Ms. VanDongen with IC Specialty Services and Mr. Todd Reader with Palmer Engineering & Forensics conducted the joint inspection. Mr. Austin Birdsong with Apex Fire Services and Mr. Daren Slee with Engineering Systems, Inc. attended on behalf of Goody Law Group and the Wadsworth family. A list of additional participants is available upon request.

Joseph R. Filas, IAAI-CFI (V), NAFI-CFEI, Senior Fire Consultant, attended a joint evidence examination on October 30, 2023, at Palmer Engineering & Forensics facility in North Salt Lake City, Utah. Mr. Strandjord with Advanced Engineering Investigations and Mr. Samuel Sudler with S.E.A. Limited attended the joint evidence examination on behalf of McCoy Leavitt Laskey, L.L.C. Mr. Richard Dyer with Dyer Fire Consulting and Mr. Scott Cramer with Engineering Design and Testing Corporation conducted the joint inspection

on behalf of Morgan & Morgan and the Wadsworth family. A list of additional participants is available upon request.

This report was prepared for the exclusive use of McCoy Leavitt Laskey, L.L.C., and was not intended for any other purpose. Our report was based on the information available to us at this time, as described in the **Basis of Report**. The opinions and conclusions herein are based on sufficient facts or data; they are the product of our analysis utilizing reliable, generally accepted principles and methods in our applicable professional field; and they reflect a reliable application of these principles and methods to the facts of this matter. Should additional information become available, we reserve the right to determine the impact, if any, the new information may have on our opinions and conclusions and to revise our opinions and conclusions if necessary and warranted. This report was reviewed by Paul H. Schneider Jr., IAAI-CFI (V), Fire Practice Leader.

Section II CONCLUSIONS

- 1. The fire originated at the plastic shed located below the Bedroom #4 window along the north exterior wall of the structure.
- 2. The probable cause of the fire was the ignition of combustible materials from heat generated by the smoldering coal of an improperly discarded cigarette that ignited adjacent combustible materials.
- 3. The opinions expressed by Detective Jeff Sheaman with the Sweetwater County Sherriff as to the origin and cause of the fire are inaccurate. The opinions are not consistent with witness statements, proper identification of fire patterns, dynamics of fire development, arc mapping analysis, overall methodology of fire investigations, and all known data.
- 4. The opinions expressed by Mr. Shulz with M.J. Schulz & Associates as to the origin and cause of the fire are inaccurate. The opinions are not consistent with witness statements, proper identification of fire patterns, dynamics of fire development, arc mapping analysis, overall methodology of fire investigations, and all known data.

Section III DISCUSSION

Structural Description

The fire-damaged structure was a north-facing, single-family, one-story with basement residential structure. The structure was constructed of wood framing on a concrete foundation system. The roof was constructed of wood framing, sheathed with plywood and roofing paper, and finished with metal panels. The attic was insulated with fiberglass batt insulation. Exterior walls were constructed of wood framing, insulated with fiberglass batt, a layer of black plastic, a layer of fiberboard, a layer of clear plastic, and finished with stone veneer at the lower portions of the exterior walls, and metal siding at the upper portion of the exterior walls. Interior walls were constructed of wood framing, a layer of plywood, and a finish layer of wood/composite paneling. Interior ceilings were constructed of wood framing, sheathed with plywood, and finished with wood/composite paneling. Interior floor coverings included carpet and vinyl flooring.

The structure consisted of an attached garage located at the west portion of the structure, a kitchen and living room at the center-west portion of the structure, two bathrooms, and four bedrooms with a hallway located at the center east and east portions of the structure. The northeast bedroom is labeled as Bedroom #1, the southeast bedroom is labeled as Bedroom #2, the southwest bedroom was labeled Bedroom #3, and the northwest bedroom was labeled as Bedroom #4. Bedroom #1 was the master bedroom, Bedroom #2 was occupied by Weston Wadsworth, Bedroom #3 was occupied by Kamille Wadsworth, and Bedroom #4 was occupied by Gunner and Layne Wadsworth. A basement was located below the structure except for the garage.

There were four doors that accessed the interior of the structure. The first door was located along the north interior wall of the kitchen between the porch and the kitchen. The second door was located along the north interior wall of the garage between the exterior and the garage. The third door was located along the west interior wall of the kitchen between the kitchen and garage. The fourth door was located along the east interior wall of Bedroom #2.

Windows for the structure were metal-framed, double-pane windows. There were glass block windows for the basement at the east, south, and north exterior walls.

Utilities

Electrical service was provided to the structure by an overhead service drop to a weatherhead, service raceway, meter base, and meter located on the north exterior wall. The weatherhead and meter base were approximately 3 feet 5 inches west of the Bedroom #4 window. The aluminum service drop conductors were routed from a utility pole located to the northeast of the structure. The service drop conductors were severed. A portion of the service drop conductors was still intact near the location of the weatherhead. The utility pole side service drop conductors had been removed prior to our inspection. The meter was not present at the time of inspection. Fire damage occurred to the weatherhead, service raceway, and meter base.

The main disconnect switch was located at the north interior wall of the basement. The main disconnect handle indicated it was in the ON position. No fire damage occurred to the main disconnect switch.

The first circuit-breaker panel was located at the north interior wall of the basement below the disconnect switch. All circuit breakers and the main circuit breaker were in the ON position. There were no tripped circuit breakers. No fire damage occurred to the circuit-breaker panel. Copper conductors in non-metallic sheathed cable provided branch circuit wiring.

A second circuit-breaker panel was located along the south interior wall of the basement. All circuit-breakers were in the ON position except for the #8 circuit-breaker position (Labeled #6 for "Washing Machine"), and the #2-4 circuit-breaker position (Labeled #2 – Pump) that were in the OFF position.

Natural gas service was provided to the structure by a service lateral to a meter and regulator located at the south exterior wall of the structure. The meter and regulator were present at the time of inspection. The service shut-off valve was in the closed position at the time of inspection. No fire damage occurred to the meter, regulator, and service piping.

Observations

An exterior inspection of the structure was conducted. No fire damage occurred to the south and west exterior walls of the garage. Fire damage occurred to the south exterior

wall around the living room windows. Fire patterns to the south exterior wall, window, and eave were consistent with ventilation from the window and attic. All six windowpanes for the living room windows were broken. Fire damage occurred at the south exterior along the eaves above the windows for Bedroom #3 and Bedroom #2. The windowpanes were intact at the exterior. Evidence of cracks in the windowpanes was observed from the exterior that occurred to the interior of the window. There were no ventilation patterns around these two windows.

Fire damage occurred to the east exterior wall. The fire damage occurred around the attic vents, eaves, and exterior door. The fire patterns at the south exterior attic vents and door were consistent with ventilation from the attic and Bedroom #2. No ventilation patterns were observed around the windows for Bedroom #2 and Bedroom #1. These two windows were intact.

Fire damage occurred to the north exterior wall. Fire damage occurred along the eaves of the north exterior. No ventilation patterns occurred around the Bedroom #1 window. Bedroom #1 window was intact. No fire damage or ventilation patterns were present above the two garage roll-up doors. The roll-up doors were intact. A ventilation pattern occurred around the exterior garage door located just east of the garage roll-up doors. This exterior door and storm door were intact. A ventilation pattern occurred along the exterior wall above the garage at the exterior wall of the kitchen and living room above the height of the garage roof. Ventilation patterns occurred above the two windows for the kitchen. The two kitchen windows were broken. A ventilation pattern occurred above the kitchen door. The kitchen door sustained fire damage to the exterior. Oxidation patterns were present at the exterior upper right corner, and the timeline of fire department operations was consistent with the door being open during fire suppression activities.

The most severe fire damage along the north exterior wall occurred around and below the Bedroom #4 window. Ventilation patterns were present around the window. Mass loss of the wood framing, sheathing, and roofing materials occurred around the roof eaves. The mass loss of these materials was most severe at the east side of the Bedroom #4 window. The eave framing was mostly consumed by the fire at the east side of the window. Mass loss of the aluminum window frame occurred at the bottom left (east) side of the window frame, and the top portion of the window frame. Mass loss of wood framing at the window opening was most severe at the left (east) side of the window frame.

Oxidation patterns around and below the window occurred on the surface of the metal siding. The metal siding was melted below the left (east) side of the window. Fire damage occurred along the rock veneer located below the window. The shape of the fire pattern was consistent with a plume-generated columnar pattern. This is due to the fuel package below and the lack of a horizontal ceiling that would produce fire patterns such as a "V" pattern along the lower portion of the wall.

Fire damage occurred below the Bedroom #4 window. A yellow-colored resolidified plastic mass was located along the ground and abutted the north exterior stone veneer wall. It was determined that the resolidified mass was the remains of a plastic shed. Mass loss and consumption of the shed by fire occurred except for the underside, which was in contact with the concrete ground. The center of the mass was located more toward the left (east) side of the Bedroom #4 window. The remains of a metal-framed chair, portable electric heater, and miscellaneous contents were located on top of the resolidified mass.

An interior inspection of the structure was conducted. No fire damage occurred in the basement except for a small area along the north interior wall. This fire damage is consistent with fall down to the shelves from a floor vent in the south portion of Bedroom #4.

Fire damage occurred in the garage and all damage increased with proximity to the kitchen/garage door. A ventilation pattern occurred on the east interior wall of the garage around the kitchen/garage door. This indicated fire progression from the kitchen to the garage through the kitchen/garage door. Fire patterns to the kitchen/garage door were consistent with this door being open during the fire.

Fire damage occurred in Bedroom #1. Bedroom #1 was the northeast bedroom in the eastern portion of the structure. A ventilation pattern occurred on the south interior wall of the bedroom around the bedroom door that indicated fire progression into the bedroom from the hallway. A hot gas layer generated pattern occurred on each interior wall. The hot gas layer pattern was approximately 2/3 down the wall. The bedroom had two windows located along the north and east interior walls. Fire damage occurred to the interior windowpanes of the windows. The windowpanes for both windows were intact.

Fire damage occurred in Bedroom #2. Bedroom #2 was the southeast bedroom in the eastern portion of the structure. A ventilation pattern occurred on the north interior wall of

the bedroom around the bedroom door that indicated fire progression into the bedroom from the hallway. A hot gas layer generated pattern was approximately 2/3 down the wall. The bedroom had two windows located along the south and east interior walls. Fire damage occurred to the interior windowpanes of the windows. The windowpanes for both windows were intact.

Fire damage occurred in Bedroom #3. Bedroom #3 was the southwest bedroom in the eastern portion of the structure. A ventilation pattern occurred on the north interior wall of the bedroom around the bedroom door that indicated fire progression into the bedroom from the hallway. A hot gas layer generated pattern was approximately 2/3 down the wall. The bedroom had one window located along the south interior wall. Fire damage occurred to the interior windowpanes of the windows. The interior windowpanes were cracked. The cracked windowpane was consistent with the fire damage that occurred to the window. The room did not reach flashover conditions and the exterior of the windowpanes were intact.

Fire damage occurred at Bathroom #1. Bathroom #1 was the east bathroom in the eastern portion of the structure. A ventilation pattern occurred on the west interior wall of the bathroom around the bathroom door that indicated fire progression into the bathroom from the hallway. A hot gas layer generated pattern was approximately 2/3 down the wall.

Fire damage occurred in Bathroom #2. Bathroom #2 was the west bathroom located at in the eastern portion of the structure. A ventilation pattern occurred on the east interior wall of the bathroom around the bathroom door that indicated fire progression into the bathroom. Fire movement patterns indicated fire progression from the hallway into the bathroom through the bathroom door during the initial fire growth. Additional fire movement patterns and mass loss of the north interior wall continued fire progression into the bathroom during the later stages of the fire.

Fire damage occurred in the Kitchen. The Kitchen was located at the northwest portion of the structure. Mass loss of the kitchen cabinets along the south interior wall was most severe at the east side toward the hallway. Mass loss of the ceiling sheathing was most severe at the ceiling located near the hallway. A hot-gas-layer-generated pattern was approximately 2/3 down the wall at the west side of the Kitchen. Fire movement patterns within the kitchen indicated fire progression from the hallway into the kitchen. Additional

fire movement patterns and mass loss of the east interior wall continued fire progression into the kitchen from the closet of Bedroom #4 during the later stages of the fire. Fire damage occurred to the exterior kitchen door located along the north interior wall of the kitchen. Oxidation patterns were present at the top left of the door. Fire patterns to this door indicated that the door was opened during fire suppression activities.

Fire damage occurred in the living room. The living room was located at the southwest portion of the structure. Fire movement patterns along the east and north interior walls indicated fire progression from the hallway into the living room. The mass loss of the ceiling and attic area above the living room is attributed to ventilation and the delay of fire suppression in those areas. The fire damage within the living room was consistent with full-room involvement. The windowpanes for the living room windows along the south interior wall were broken.

Fire damage occurred in the bedroom hallway. The bedroom hallway was located at the center and east portions of the structure. All fire damage in the hallway increased with proximity to Bedroom #4. Mass loss of the wood framing and wall sheathing was most severe at the north interior wall and south interior wall around Bedroom #4 door. Fire movement patterns along the hallway interior walls indicated fire progression from the Bedroom #4 door. Mass loss of several wood framing studs along both the south interior and north interior wall toward the ceiling occurred in the direction toward the door. Mass loss of the wood framing for the ceiling and the ceiling sheathing was most severe at the ceiling just east of Bedroom #4 door. Mass loss of the roof sheathing and framing in the attic around this location occurred. Located at the ceiling in the hallway outside the door of Bedroom #4 was a whole house fan that penetrated the ceiling and provided a path for fire spread into the attic. The whole house fan opening measured approximately 2 feet in diameter. Fire progression from the bedroom into the hallway would spread within the hallway and into the attic. The loss of the wood studs along the south interior wall of Bedroom #4 is not consistent with a pointer and arrow pattern or a V pattern that indicates the location of the origin of the fire. The increased mass loss of materials surrounding the doorway and attic fan is attributed to ventilation effects. These patterns are the result of the increased velocity of flow over combustibles. This is also consistent with a flow path between the Bedroom #4 window and door.

Fire damage occurred in Bedroom #4 and all fire damage increased with proximity to the west side of the bedroom. The fire damage within the bedroom was consistent with full room involvement with fire damage to the floor. This is attributed to the descending smoke and heat layer because of radiant heat flux, convected heat, and the introduction of additional fuel packages within the room during the growth of the fire. Located in the bedroom were bunk beds at the northeast corner, a dresser along the east interior wall, a toy box in the southwest corner, and a hoverboard located along the west interior wall.

Fire damage occurred to the north interior wall of Bedroom #4. The north interior wall was insulated with fiberglass insulation and provided thermal protection to the wood framing during the fire. This would lessen the fire effects and fire damage to the wood wall framing. Mass loss of the wood framing was most severe at the east side of the north interior wall and occurred at the location of the bunk beds. Mass loss of the window opening was most severe at the east (right) side of the window.

Fire damage occurred to the east interior wall of Bedroom #4. There was a heat shadow and protected area fire patterns on the east wall consistent with the shape of the bunk beds. Fire movement patterns along this wall were consistent with fire progression from the north. There is less fire damage to the wall studs along the east interior wall as compared to the north, south, and west interior walls.

Fire damage occurred along the south interior wall of Bedroom #4. Mass loss of several wood framing studs for the interior wall were consumed by the fire near the top portion of the wall near the door. The damage to the south interior wall of the bedroom was attributed to the increased ventilation effects.

The most severe fire damage to the interior of the bedroom was located in the west portion of the bedroom. The increased damage at the west portion of the bedroom continued from the north wall to the south wall. The two vents for this bedroom included the window located along the north exterior wall and the bedroom door located along the south interior wall. The increased damage at the west portion compared to the east portion of the bedroom is consistent with ventilation effects and the flow path that developed between the window and the bedroom door during the growth and spread of the fire within the bedroom. This flow path increased the ventilation effects of the materials at the west side of the bedroom.

Fire damage occurred to the west interior wall of Bedroom #4. Mass loss of one wood stud occurred in two stud locations from the corner of the west interior wall and the closet. An area of unburned wood paneling was present along the west interior wall that indicated the location of a hoverboard. The lack of fire damage near floor level is consistent with this area being protected by the hoverboard. Located above the location of the hoverboard along the west interior wall was an inverted cone pattern. No V pattern was observed on the west interior wall. The inverted cone pattern was present at the opposite side of the interstitial wall along the west interior wall. The inverted cone pattern is consistent with the fuel package of the hoverboard. The inverted cone pattern is not consistent with a V pattern or an extension of a V pattern.

Fire damage occurred to the ceiling and the attic space above the ceiling of Bedroom #4. Fire damage increased with proximity to the area around the window. One ceiling joist above the window was consumed by the fire.

The remains of the hoverboard were discovered along the west interior wall of the bedroom. The location of the hoverboard measured approximately 36 inches from the bedroom door. The door was approximately 36 inches wide. The position of the hoverboard indicated the hoverboard was on the carpet floor in contact with the west interior wall. This is consistent with the unburned wood paneling at floor level. The hoverboard was positioned with one tire to the south and one tire to the north. Fire damage occurred to the hoverboard, and all fire damage increased with distance towards the north side. The south wheel was less consumed by the fire as compared to the north wheel. Fire movement patterns indicated fire progression from the north. The carpet below the hoverboard was intact and consistent with a protected area. The top portion of the hoverboard sustained more severe fire damage as compared to the bottom. Internal wiring and components sustained damage towards the top of the hoverboard with less fire damage towards the bottom. There was undamaged wire insulation within the hoverboard. The lack of internal damage throughout the hoverboard, the protected area of the carpet below the hoverboard, and fire patterns to the hoverboard are not consistent with a fire origin at the hoverboard. There is no indication that the fire originated at the hoverboard along the west interior wall of the bedroom.

Inspection of Exterior and Shed

An inspection of the items along the north exterior wall of the structure was conducted. The remains of a plastic shed were present along the north exterior wall of the structure below the Bedroom #4 window.

Located around the remains of the plastic shed at the north exterior of the structure included a large water bowl with de-icer, a propane tank, a wood-log chair, an exterior receptacle, three extension cords, miscellaneous contents, and the remains of cigarette butts.

A large blue water bowl was located to the east of the shed. The top portion of the water bowl was melted and resolidified. The lower portions of the water bowl were intact. The damage to the water bowl is consistent with water in the bowl at the time of the fire. A deicer was found submerged in the water bowl. The de-icer was plugged into a yellow extension cord that was routed from a pole near the recreational vehicle parked to the north of the structure. The de-icer is a submersible electric heater that prevents water from freezing. The de-icer was identified as a Model C-50 and was manufactured by Farm Innovators. No fire damage occurred to the de-icer.

A propane tank was located next to the water bowl. The propane tank and valve were intact. Fire damage occurred to the west side of the tank that faced towards the shed. There are no fire patterns around the propane tank consistent with the burning of any escaping gas. There is no indication that propane escaped or was vented from the propane tank during or before the fire.

The wood-log chair was located on the north side of the shed. The majority of the fire damage to the wood-log chair was at the south and southeast sides facing the shed.

The remains of cigarette butts were observed on the ground near the location of the shed and around the porch. Many of these cigarette butts included areas that contained other combustible trash and miscellaneous items. Miscellaneous items were on the ground surrounding the porch. No fire damage occurred to these items.

Located along the north exterior wall of the structure, just east of the porch stairs and west of the shed, was an exterior duplex receptacle and a single receptacle. Fire damage occurred on the east side of the duplex receptacle junction box. No fire damage occurred

to the duplex and single receptacle. Two extension cords, one yellow and one orange in color, were plugged into the duplex receptacle. Fire damage occurred to the extension cords near the area of the duplex receptacle. The fire damage was consistent with an external fire attack.

The orange extension cord was located at the top of the duplex receptacle. This extension cord was routed along the ground from the receptacle to the shed and entered the shed at the northeast corner. The extension cord was routed to the interior of the shed to the portable electric heater located at the northeast corner of the shed. Fire damage occurred to this extension cord with the most severe fire damage at the location where it entered the shed.

A yellow extension cord was located at the bottom of the duplex receptacle. This extension cord was routed from the receptacle to a post near the recreational vehicle located to the north of the structure. The majority of the extension cord was not damaged by fire except for a small section near the location of the receptacle.

An additional yellow extension cord was routed from the post location to the de-icer in the water bowl to the east of the shed. Fire damage occurred to this extension cord around the location of the water bowl and where it was routed at the east side of the shed.

An inspection of the shed was conducted. The remains of a shed were located along the north exterior wall just below the Bedroom #4 window. The remains of the shed included a pool of resolidified mass. The plastic shed was identified as an outdoor storage container, which was designed to store 55-gallon drums. The shed was yellow in color. The material was manufactured from high-density polyethylene. A sample of the shed was removed from the resolidified mass of the shed. The sample was analyzed utilizing Fourier-Transform Infrared Spectroscopy (FTIR). The FTIR test confirmed the material was polyethylene.

The shed measured 57 ½ by 57 ½ by 72 inches and abutted the north exterior wall. The height of the north exterior wall stone veneer was 75 inches, the height of the metal siding and bottom of the Bedroom #4 window was 87 inches, and the height of the top of the window was 121 inches. The height of the shed did not reach the height of the stone veneer. The top of the shed did not reach the bottom of the window or top of the window. The shed was slightly offset from the center of the window towards the east.

Located within the remains of the shed were the remains of a portable electric heater, an extension cord, a light fixture base, one ashtray, two chairs, an end table with drawers, cigarette packaging, cigarette lighters, and miscellaneous contents. Fire damage occurred to all the interior contents, and the majority of all combustibles except for the bottom of the shed were consumed by the fire.

The remains of a portable electric heater were found within the shed. The portable electric heater was located at the northeast corner of the resolidified mass. The portable electric heater was identified as a model CZ250 1500-watt electric shop heater manufactured by Comfort Zone. The portable electric heater was equipped with overheat protection and had three settings, including fan, low and high. Fire damage occurred to the portable electric heater. An extension cord was observed around the remains of the portable electric heater. Evidence of arcing was observed at several locations on the extension cord/power cord for the portable electric heater.

The remains of one ashtray were found in the fire debris. The ashtray measured approximately 3 1/4 inches in height and had a diameter of approximately 4 inches. The burned remains of cigarette butts were observed in the ashtray debris. The remains of the cigarette butt bucket, as described by the Wadsworth family, were not found in the fire debris. If the bucket was made of a combustible material the bucket may have been consumed by the fire.

Arc Survey/Mapping

An arc survey and arc mapping analysis of the building's fixed electrical system and associated components was conducted. An arc survey concluded that there were no locations of arcing within the interior of the structure. An electrical arc occurred at the portable electric heater extension/power cord located at the interior of the shed. Located above the shed were the incoming conductors for the overhead service drop. These conductors were severed/melted over the location of the shed. Once the overhead conductors are severed, there is no longer electrical power to the structure. Once electrical power is disconnected, no arcing can occur on any component that is connected to the building's fixed electrical system. Arc mapping analysis can aid in the determination of the origin of the fire. It was determined that the arc to the extension cord and power cord for the portable electric heater in the shed occurred first and then was followed by

the loss of power to the structure. Arc mapping analysis is consistent with the origin of the fire at the interior of the shed.

Burn Test of Shed

A test burn of the shed was conducted by Mr. Greg Gorbett with Fire Dynamics Analysts. The video of the testing was reviewed. The test indicated that the shed burns and would cause the fire plume to intersect the window and overhead service drop. The patterns produced by the burning of the shed along an exterior wall are consistent with the shape of the fire pattern present along the north exterior wall of the structure.

Fire Modeling

Fire modeling of the structure fire was conducted by Mr. Gorbett with Fire Dynamics Analysts. The fire models were developed with an interior fire origin and an exterior fire origin. The fire models are consistent with an origin hypothesis at the exterior of the structure.

Items Collected

The following item was collected by Rimkus during the joint site inspection on August 3, 2022:

Exhibit 1: Window.

The following item was collected by Rimkus during the joint evidence examination on October 30, 2022:

Exhibit 2: Sample of shed material.

The following item was collected by IC Specialty Services on February 4, 2022:

Item 1: Fire-damaged hoverboard.

The following items were collected by IC Specialty Services on August 2, 3, 4, 2022:

- Item 1: Smoke Detector.
- Item 2: Smoke Detector.

- Item 3: Smoke Detector.
- Item 4: Smoke Detector.
- Item 5: Smoke Detector.
- Item 6: Smoke Detector.
- Item 7: Smoke Detector.
- Item 8: Smoke Detector.
- Item 9: Smoke Detector.
- Item 10: Mattress northeast bedroom.
- Item 11: Mattress northeast bedroom.
- Item 12: Remnants of smoke detector SW bedroom.
- Item 13: Battery from SW bath/bedroom 8.75 V
- Item 14: Debris from behind refrigerator.
- Item 15: Battery SW bedroom 8.47 V.
- Item 16: Motor from the threshold for bedroom #4.
- Item 17: Smoke alarm base garage, west wall
- Item 18: Smoke detector base basement.
- Item 19: Weatherhead.
- Item 20: Electrical circuit and breaker bedroom #4.
- Item 21: Electrical circuits bedroom #4.
- Item 22: Electrical receptacle garage.
- Item 23: Face plates bedroom #4.

- Item 24: Circuit-breaker east exterior electrical receptacle.
- Item 25: Charging cords kitchen.
- Item 26: Debris from floor of closet bedroom #4.
- Item 27: Floor debris bedroom #4.
- Item 28: Solid debris exterior, east side of the structure.
- Item 29: Solid debris exterior, east side of the structure.
- Item 30: Refrigerator.
- Item A1a: Debris.
- Item A1b: Smoke detector components.
- Item A1c: Carpet and miscellaneous debris.
- Item A2a: Debris.
- Item A2b: Miscellaneous.
- Item A3a: Debris.
- Item A3b: Miscellaneous.
- Item B1a: Debris.
- Item B1b: 2 battery cells (hoverboard).
- Item B1c: Miscellaneous debris.
- Item B2a: Debris.
- Item B2b: Debris.
- Item B3a: Debris.
- Item B3b: Debris

- Item B3c: Debris
- Item B3d: Debris
- Item B3e: Miscellaneous.
- Item C1a: Debris.
- Item C1b: Miscellaneous.
- Item C2a: Debris.
- Item C2b: Miscellaneous.
- Item C3a: Debris.
- Item C3b: Debris.
- Item C3c: Miscellaneous.
- Item D1a: Debris.
- Item D1b: Miscellaneous.
- Item D2a: Electrical wiring.
- Item D2b: Portable heater and associated electrical.
- Item D2c: Extension cord.
- Item D2d: Ashtray.
- Item D2e: Miscellaneous debris and electrical components.
- Item D2f: Light component.
- Item D2g: Aluminum wiring from beneath the weatherhead.
- Item D2h: Extension cord and electrical receptacle.
- Item D2i: Miscellaneous debris.

Item D2j: Miscellaneous debris.

Item D2k: Miscellaneous debris.

Item D2I: Debris from above the solid mass.

Item D2m: Debris.

Item D2n: Debris.

The item numbers with a letter/number/letter are the locations of the evidence that was collected from the grid patterns from the interior of Bedroom #4 and at the exterior of the structure.

Fire Department Reports

The Green River Fire Department incident report number 2022-46 was reviewed. The incident report indicated that the fire call was received on February 1, 2022, at 4:27 a.m. and the first unit arrived at 4:37 a.m., which was the chief officer's car. Engine E-2 arrived at approximately 4:42 a.m., and Engine E-22 arrived at approximately 4:50 a.m. Fire department personnel had arrived on scene in personal vehicles, but the engines did not arrive as indicated on the incident report in comparison to the sheriff's video. The report indicates that the fire was attacked offensively until water became an issue.

The Sweetwater Fire District 1 incident report number 2022-28 was reviewed. The incident report indicated a mutual aid request at 5:23 a.m., and the tanker E-203 arrived at 5:39 a.m. The report indicates that mutual aid was requested for additional water and manpower. The Sweetwater Fire District did not arrive on site until approximately 1 hour after the original call to the Green River Fire Department.

Sheriff Report

The Sweetwater County Sheriff incident report number S22-01535 was reviewed. The incident report indicated that the fire call was received on February 1, 2022, at 4:27 a.m. The first Sheriff officer to arrive was Officer John Hansen and the first fire unit arrived on February 1, 2022, at 4:38 a.m.

Weather Information

Historical weather data was reviewed at Weather Underground, https://www.wunderground.com/history, for Rock Springs, Wyoming on February 1, 2022. The following is a summary of the information obtained:

Around the time of the fire, the temperature was recorded at 11 degrees
 Fahrenheit. Wind speeds were sustained at 12 miles per hour (mph), and winds
 were blowing from the west-southwest. The conditions were described as fair.

Witness Statements/Interviews/Depositions

There were five individuals who witnessed the fire event except for responding fire department and sheriff department personnel. The witnesses included Ms. Wadsworth (Mother), Kamille Wadsworth (Daughter, Age: 12), Gunner Wadsworth (Son, Age: 8), Layne Wadsworth (Son, Age: 6), Weston Wadsworth (Son, Age: 4). Ms. Wadsworth, Kamille, Gunner, Layne, and Weston were at home at the time of the fire. The fifth witness was Mr. Ryan Pasborg who discovered the fire while driving by the structure. The following is a summary of the information obtained from body-worn/dashcam cameras, formal witness interviews, and depositions per witness:

Gunner Wadsworth:

The Sweetwater County Sheriff's Office body-worn camera video named 2022-02-01, Axion Flex 2 X83117281 was reviewed. The body-worn camera was recorded on February 1, 2022, during the fire event and recorded the conversations between the witnesses and the sheriff officer. The following information was obtained from the video:

• Gunner was in his bed right next to the fire. He was asleep when the fire happened.

The formal interview with Gunner Wadsworth conducted by Detective Jeff Sheaman with the Sweetwater County Sheriff's Office on March 4, 2022, was reviewed. The following is a summary of the information obtained from this interview:

Gunner Wadsworth was the first individual to discover the fire. Gunner Wadsworth
had been sleeping on the top bunk bed in Bedroom #4. The bunk beds were
located along the north interior wall of Bedroom #4.

- Gunner Wadsworth first stated the fire was behind him, it melted through the
 window, and moved up the wall. Gunner Wadsworth stated that the fire was not by
 his brother Layne Wadsworth, and it was just by him. He remembers waking up to
 the fire going, the fire being hot behind his back, and jumping out of bed with his
 blanket.
- Gunner Wadsworth reported that he went to wake up his sister Kamille Wadsworth to inform her of the fire, but reported Kamille initially thought it was a joke.
- Gunner Wadsworth remembers seeing the fire behind him after he woke up. After being asked by Detective Jeff Sheman where he saw fire in the room, Gunner Wadsworth stated the fire was by the window. By the time he woke up, there was no window, there were only two pieces of window, and the two pieces were on his bed because they melted off the window frame. Detective Jeff Sheaman then asks where is the fire in the room compared to where they were at in bed, and Gunner Wadsworth responds it started behind the door where Kamille's hoverboard was located. Detective Jeff Sheaman asked what made Gunner think that and Gunner Wadsworth responded because when he went to the bathroom, the door hit the hoverboard. Gunner Wadsworth stated that 30 minutes later after returning from the bathroom, the fire traveled into the wall, moved up, and melted the glass window.
- Gunner Wadsworth stated that he went to the bathroom across the hallway from Bedroom #4 at 3:30 a.m. He left the door open before returning to bed. He did not notice or smell anything when he exited or entered the room at approximately 3:30 a.m. The hoverboard was located behind the bedroom door and the hoverboard was unplugged. The hoverboard was plugged in when they went to bed, but he thinks his mother unplugged the hoverboard. They had used the hoverboard that evening for at least two hours prior to going to bed. The power cord used to charge the hoverboard was also behind the bedroom door near the location of the hoverboard along the west interior wall. The charger would have been plugged into the receptacle behind the door.
- Gunner Wadsworth stated they did not have any problem getting out of the room with the fire. Gunner Wadsworth stated that they did not see any fire by the

bedroom doorway. Gunner said he only saw half the hoverboard. He did not see any flames or fire coming from the hoverboard. Gunner does say he saw one "ash" and agrees to "spark" after Detective Sheaman says spark.

- After exiting the bedroom, they went to wake up his mother and Kamille. Kamille was in her bedroom and made her way to the living room. Eventually, they made it into the kitchen, and Layne began putting his coat and boots on, and Gunner started to sit down for breakfast in the kitchen. Then upon trying to exit through the front kitchen door, he noticed and the whole porch was on fire.
- Gunner Wadsworth stated that they exited the kitchen through the kitchen/garage door. He did not see any flames anywhere else in the house before they left the bedroom and the house. There was smoke inside the house prior to leaving.

The deposition of Gunner Wadsworth conducted on May 20, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

- Gunner Wadsworth stated that he was awoken by his brother Layne Wadsworth
 alerting him to the fire. The first place he saw the fire was by the bedroom window.
 He remembered two shards of glass in the bed. He remembers feeling heat on
 his back while lying in bed towards the window. When he was leaving his bedroom,
 he saw flames near the hoverboard.
- Gunner Wadsworth stated he exited the house, saw fire at the outside of the bedroom window, the top of the shed was on fire, the front porch was on fire, and the wood-log chair next to the shed was on fire.
- Gunner Wadsworth stated that he had been in the shed before and there were two chairs and a bucket of cigarette butts.
- Gunner Wadsworth stated that he did not see the shed on fire from the bedroom window, only after exiting the house, he saw the shed on fire.
- Gunner Wadsworth stated that he just saw fire at the window when he got up. He also reported that the comforter on the bed was on fire.

- Gunner Wadsworth stated Layne Wadsworth had a stash of batteries, batteries removed from broken toys in the corner by the bedroom door, he saw a battery blow out towards the window, and the window was already broken and on fire.
- Gunner Wadsworth stated that when he exited the house, he saw the top of the shed on fire, it was melting from the top down. He also reported seeing the dog water bowl next to the shed on fire.

Lane Wadsworth:

The Sweetwater County Sheriff's Office body-worn camera video named 2022-02-01, Axion Flex 2 X83117281 was reviewed. The body-worn camera was recorded on February 1, 2022, during the fire event and recorded the conversation between the witnesses and the sheriff officer. The following information was obtained from the video:

 Layne stated he (Gunner) was right next to the fire, and he (Layne) was under the window.

The formal interview with Layne Wadsworth conducted by Detective Jeff Sheaman with the Sweetwater County Sheriff's Office on March 4, 2022, was reviewed. The following is a summary of the information obtained from this interview:

- Layne was on the bottom bunk bed within Bedroom #4 at the time of the discovery
 of the fire. Layne stated he was right next to the wall where it was but there was
 a giant shed. He was awoken by the smoke alarms. Layne stated he did not feel
 the heat on his back heat like his brother Gunner Wadsworth. Layne Wadsworth
 did smell smoke. He remembers seeing the wall and the door there was a glow.
- Layne Wadsworth stated while leaving the room he did not see any fire at the bedroom doorway. He did not see any fire or flames coming from the hoverboard.
 He saw part of the hoverboard gone.
- Layne states that after leaving the bedroom, they tried to explain to Kamille what happened, and states that Kamille looked out our bedroom window where there was a glow.

• When the front kitchen door was open, Layne stated that he did not see the whole porch on fire. He did not see any flames anywhere else in the house before they left the bedroom but then did say there was a flame going to the living room. Layne stated that they exited the kitchen through the garage door.

The deposition of Layne Wadsworth conducted on May 20, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

- Layne Wadsworth stated that he awoke because the bedroom window broke and saw fire around the window. He also saw fire at the hoverboard, the carpet along the wall leading from the hoverboard to the closet, inside the closet, and a little bit on the ceiling above the window and seeping out from where the window was underneath the top bunk.
- Layne Wadsworth stated that he then went to the living room to wake up his
 mother. Eventually, Gunner, Kamille, and himself make their way to the kitchen.
 His mother opened the kitchen door and said a bad word. They exited through the
 garage door and went outside. When outside he saw the north wall and front porch
 on fire. He stated that the shed was no longer there, it was gone, and the roof was
 on fire.
- Layne Wadsworth stated that a spark landed on his blanket on his bed and that it came from a small piece of the window that was showing.

Kamille Wadsworth

The Sweetwater County Sheriff's Office body-worn camera video named 2022-02-01, Axion Flex 2 X83117281 was reviewed. The body-worn camera was recorded on February 1, 2022, during the fire event and recorded the conversation from the witnesses and the sheriff officer. The following information was obtained from the video:

• Kamille stated that the fire started in the shed area. The officer asks Kamille what may have started the fire. Kamille responds no it was outside by the shed and it was coming from the shed. Afterward, she stated that it could be that because her parents smoke in the shed, but they always put out the smoke (cigarette). Later, while on the phone, Kamille Wadsworth stated the fire started out on the porch.

The formal interview with Kamille Wadsworth conducted by Detective Jeff Sheaman with the Sweetwater County Sheriff's Office on March 4, 2022, was reviewed. The following is a summary of the information obtained from this interview:

- Kamille Wadsworth stated she woke up from the smoke alarms and heard her brother Gunner Wadsworth screaming at the same time. She got up from bed and saw a yellow glow that you see from a fire in Bedroom #4. She looked into the room and saw a big fire, and the fire was by the window by the bunk beds.
- She then went to the living room to wake up her mother. She stated that her mother got up and all of them went to the kitchen. Her brother Gunner Wadsworth sat in his chair as if he was about to eat breakfast. Then her mother went to get her brother Weston Wadsworth. She noticed the smoke getting thicker and she told the boys to get out of the house. Kamille, Gunner, and Layne Wadsworth exited through the garage door and then someone showed up and got Weston and Ms. Wadsworth out of the house. She stated she did not go out through the front door because the fire was on the outside of the house. She looked outside the window and noticed the fire by the shed. Ms. Wadsworth opened the main door and there was fire by the front door. She stated that she wondered why would you open the door when there is fire out there.
- Kamille Wadsworth stated that after exiting the house, they were outside and seconds later the individual showed up and helped Ms. Wasdsworth and Weston Wadsworth get out of the house.
- Kamille remembers using the hoverboard the day before the fire. The hoverboard still had two lights illuminated indicating that it was charged, and she placed it behind the door of Bedroom #4.

The deposition of Kamille Wadsworth conducted on May 20, 2024, was reviewed. The following is a summary of the information obtained from the deposition.

 Kamille Wadsworth stated that she was awoken by the fire alarms. She exited her bedroom and went to the living room and Gunner and Layne were trying to wake up their mother. She yelled at her mother that there was a fire. She did not recall any smoke in the hallway, and there was a glow of the fire on the opposite wall of the bedroom. When she passed Gunner and Layne's bedroom, she saw fire and the bed was on fire.

- Kamille Wadsworth stated that they made it to the kitchen, and she was waiting for her mother to come down the hallway. She stated that she now sees smoke everywhere. She did not see any fire in the hallway. She heard a loud bang and the smoke got thick and they left through the garage door.
- Kamille Wadsworth stated that before they exited, her mother went to go get Weston, and when her mother tried opening the front door, there was heat or fire in front of the door. After exiting through the garage door, she saw that the shed was in the process of melting. She also indicated that Mr. Pasborg arrived within 1 to 5 minutes after exiting the house.
- Kamille Wadsworth described the interior of the shed and the shed contained two chairs, a heater, an ashtray, and a bucket of cigarette butts.
- Kamille Wadsworth stated that when she was outside, she saw the entire shed
 and it was not melted, she did not see the roof, overhang, or any other portion of
 the exterior on fire. Later she said the wood-log chair next to the shed was on fire
 a little bit.

Ryan Pasborg

The Sweetwater County Sheriff's Office body-worn camera video named 2022-02-01, Axion Flex 2 X83117281. This camera belonged to Officer Ashley Merrell and was reviewed. The body-worn camera was recorded on February 1, 2022, during the fire event and recorded the conversation between the witnesses and the Sheriff's officer. The following information was obtained from the video:

Mr. Pasborg had been traveling towards Green River, Wyoming from Jamestown,
 Wyoming when he saw flames. When he arrived the girls and two boys were outside. He asked them if anyone else was inside, and they responded their mother. He entered and pulled her out of the kitchen.

 When he got there it looked like the flames started on the outside or in the exterior wall. The officer responded that the kids said the parents smoke in the shed and she wondered if they did not put the cigarette out.

The formal interview with Mr. Pasborg conducted by Detective Jeff Sheaman with the Sweetwater County Sheriff's Office on February 1, 2022, was reviewed. The following is a summary of the information obtained from this interview:

- Mr. Pasborg stated that he left Jamestown, Wyoming, and was heading toward Green River, Wyoming on Highway 374. As he approached the subject residence, he first saw the fire and thought someone was burning trash. He stated that he saw fire on the north side of the structure. He noticed three kids exiting the house from the garage. He asked if anyone was in the house, and they reported they could not find their brother. He then entered the house from the garage into the house.
- Mr. Pasborg stated he made it a foot and a half into the door and found the boy.
 He removed the boy from the house and took him outside. He remembers seeing smoke in the house and the smoke alarm going off.
- Mr. Pasborg stated that after returning the child to his vehicle, he asked the children if anyone else was inside and the kids responded to their mother. He reentered through the same garage door to the kitchen and found her about 6 feet from the door (kitchen).
- Mr. Pasborg stated that when he arrived at the house, he parked his vehicle at the
 northwest corner of the structure on the driveway. The flames were at the outside
 along the north exterior wall. He indicated that he saw the dry grass on fire, and
 the flames were going up the side of the exterior wall. He did not mention the shape
 of a shed.
- Detective Jeff Sheaman, during the interview, had been discussing fire investigations, fire patterns, and the hoverboard. After this discussion, Mr.
 Pasborg stated that the only thing that threw his red flag as a firefighter was that he saw flames at the exterior, he did not know if they were coming out of the

window or through the wall already, but the first thing he noticed was the grass on fire on the outside of the house below the Bedroom #4 window.

The deposition of Mr. Pasborg conducted on November 15, 2023, was reviewed. The following is a summary of the information obtained from the deposition:

- Mr. Pasborg stated that he was driving along Highway 374 when he saw flames
 and thought it was odd that someone was burning trash at 4:00 a.m. He eventually
 realized that the fire was at a structure, pulled into the driveway, and parked his
 vehicle at the northwest corner of the house.
- Mr. Pasborg saw flames coming out of the bedroom window and rolling up to the roof. He noticed a fire on the ground below Bedroom #4. Mr. Pasborg reported that the flames on the ground must have just started because the flame height was about to his calf. Mr. Pasborg opined that the flames had originated at ground level from melted siding, asphalt shingles, or something from the roof eave. Initially, Mr. Pasborg recalled seeing the shed, however, changed his observation recollection and stated that he did not recall seeing the shed, seeing the fire outside the window, remembered seeing the flames on the ground.
- Mr. Pasborg entered the garage from the exterior garage door located at the north exterior of the structure. Then he proceeded through the door between the garage and kitchen. Upon entering, Mr. Pasborg stated he saw flames coming down the walls, flames rolling through the roof, and a lot of smoke within the kitchen.
- Mr. Pasborg indicated that when he arrived the kids were in a walking position, they were not standing, and they had just exited the house.

The deposition of Ms. Wadsworth conducted on February 27, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

Ms. Wadsworth stated that she smoked about a pack of cigarettes a day. She
indicated that she and Mr. Wadsworth used the shed in the winter to smoke
cigarettes. Ms. Wadsworth admitted to using the shed to smoke cigarettes multiple
times throughout the day prior to the fire.

- Ms. Wadsworth stated that there were two ashtrays in the shed. One ashtray was made of clay, and the other ashtray was made of cast iron. She reported that she would empty the ashtrays when full, which was every couple of days. Ms. Wadsworth stated that she discarded the cigarette butts from the ashtray to the bucket. The bucket was approximately 1 foot by 1 foot by 6 inches and was used to empty the fireplace.
- Ms. Wadsworth described the interior contents of the shed as containing a plastic chair at the southeast corner, a nightstand in the northeast corner, a wooden chair in the northwest corner, a portable electric heater, and a blanket.
- Ms. Wadsworth stated that she went to bed at approximately 2:00 a.m., and that she usually has a cigarette before going to bed.
- Ms. Wadsworth was awoken by her children but could not recall the location of the
 fire. She went to the kitchen for a fire extinguisher and realized that it was too late
 for a fire extinguisher. She recalled she opened the front kitchen door and a blast
 of fire came in from the outside through the door.
- Ms. Wadsworth indicated that after closing the kitchen door, she left the kitchen, and traveled down the bedroom hallway to Weston Wadsworth's bedroom. She did not recall any smoke in the hallway while traveling from the kitchen to Weston's bedroom. Upon her return from Weston's bedroom to the kitchen, she recalled fire in the hallway, and fire was even on the floor. Ms. Wadsworth recalled that Weston attempted to open the front kitchen door and burned his hand on the door handle.
- Ms. Wadsworth stated that she looked into Bedroom #4 and saw fire everywhere
 in the bedroom. She also recalled seeing fire on the ceiling in the kitchen, the front
 wall of the kitchen, and around the kitchen door. She recalled fire coming from
 around the door but does not remember seeing fire on the outside.

The Green River Fire Department, Sweetwater County Fire District 1, and the Sweetwater County Sheriff's Office responded to the incident. The following is a summary of the information obtained from the depositions of Officers John Apostolope, John Hansen, Ashley Merrell, Richard Kaumo, and Jacob Ribordy:

John Apostolope

The deposition of Officer Apostolope, Jr. from the Green River Fire Department conducted on February 2, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

 Officer Apostolope was the first fire department personnel to respond to the incident. He indicated that he arrived approximately 1 minute prior to Sweetwater County Sheriff Officer Hansen. Upon arrival, he located himself on the north side of the house. Mr. Apostlolope did not recall a shed burning at the north exterior and observed a fire within the structure.

John Hansen

The deposition of Officer Hansen from the Sweetwater County Sheriff's Office conducted on February 2, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

Officer Hansen arrived on scene and assisted fire department personnel. Mr.
Hansen observed the overhead service drop conductors were already on the
ground while walking toward the northeast corner of the structure. Mr. Hansen
stated that there was fire coming from the house but could not remember if there
was fire outside the house.

Ashley Merrell

The deposition of Officer Merrell from Sweetwater County Sheriff's Office conducted on February 2, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

 Officer Merrell conducted interviews with Mr. Pasborg and the children in the vehicle. Officer Merrell did not walk to the north side of the structure during the fire event. Officer Merrell remembered the children stating that the fire started out at the shed and that the shed was used as a smoking shed.

Richard Kaumo

The deposition of Officer Kaumo from the Sweetwater County Sheriff's Office conducted on January 29, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

• Officer Kaumo indicated that he did not perform any fire investigation; however, from his perspective, he thought the fire originated in the interior of the house.

Jacob Ribordy

The deposition of Officer Ribordy with the Sweetwater County Fire District 1 conducted on February 2, 2024, was reviewed. The following is a summary of the information obtained from the deposition:

Officer Ribordy responded to the fire incident with a fire tanker. Officer Ribordy stated he did not enter the house during suppression or the subsequent investigation. His observations were from the exterior of the house. Officer Ribordy stated that he agreed with Sweetwater County Sheriff Officer Jeff Sheaman opinion that the fire started at the interior of the structure. Officer Ribordy stated that the exterior fire he observed was a little bit of fire and that the fire was impinging on the eaves. He reported that they extinguished a fire in the living room and the attic. He further stated that there were no ignition sources on the exterior of the building.

Matthew Wadsworth

A telephone interview with Mr. Wadsworth was conducted by Detective Jeff Sheaman. The following is a summary of the information obtained during the interview:

• Mr. Wadsworth indicated that the boys were awoken from the heat of the fire. The boys, Gunner and Layne Wadsworth woke up from the fire and then went into the living room to wake up their mother. Ms. Wadsworth sent the boys and Kamille outside to the garage, and she went to get Weston down the hall. Mr. Pasborg arrived, and he went inside to get Ms. Wadsworth and Weston Wadsworth.

- Mr. Wadsworth indicated that when the boys told him about the fire, the boys noticed fire was on the window and wall, and the heat on their backs woke them up.
- When Detective Jeff Sheaman states that his opinion was the origin and cause of the fire was the hoverboard, Mr. Wadsworth states that some of them considered that the fire was outside the bedroom window at the shed. Mr. Wadsworth stated that the shed was gone, that they had a space heater in the shed that was turned on and off, and the shed was where they smoked. Mr. Wadsworth never left the space heater on because it was too expensive.

An interview with Mr. Wadsworth was conducted during the August 2 and 3, 2022, joint inspection. Mr. Wadsworth was at work and did not witness the fire. The following is a summary of the information obtained from this interview:

- Mr. Wadsworth indicated the placement of the two chairs, nightstand, portable electric heater, and metal bucket for the ashtray within the shed. The metal/plastic chair was located in the southeast corner, the nightstand was located in the northeast corner, and the wood chair was located in the northwest corner. The metal bucket for the ashtray was located between the wood chair and the nightstand along the north interior wall of the shed. The portable electric heater was located on the nightstand. There were also a couple of other ashtrays in the shed.
- Mr. Wadsworth stated that there were several smoke detectors throughout the structure, including hallway (2), garage (1), basement (1), living room (1), and each bedroom. Carbon Monoxide detectors were located in the hallway and kitchen.
- Mr. Wadsworth identified the portable electric heater was identified as a Comfort Zone model CZ250 1500-watt portable electric heater purchased from Bomgaars.

The deposition of Mr. Wadsworth conducted on February 26, 2024, was reviewed. The following information was obtained from this deposition:

Mr. Wadsworth stated that both Ms. Wadsworth and he smoke cigarettes. They
never smoke inside the house and always smoke outside. A plastic shed was

placed along the north exterior wall of the house and was used as a smoking shed in winter during cold temperatures.

- Mr. Wadsworth had received the shed from a prior job at Baker Hughes. The shed was described as a 55-gallon drum storage shed. The shed was identified as the Eagle 1649 Outdoor Storage Building Poly 4 Drum. A portion of a used ½-inchthick rubber conveyor belt 1 was placed on the floor as a liner.
- Mr. Wadsworth reported that there were several contents in the shed. The contents in the shed included two chairs, one metal framed plastic chair, a wood framed cushion chair, a portable electric heater, an extension cord for the portable electric heater, two ashtrays, a wood nightstand with two drawers and contents stored in the drawers, including lighters, empty brass for ammunition, scissors, and other miscellaneous items.
- Mr. Wadsworth stated that the portable electric heater was plugged into an extension cord. This extension cord was routed from the north exterior wall receptacle to the shed. Located to the east of the shed was a dog water bowl and electric heater to prevent the water from freezing. There were two extension cords used for the portable electric heater and water bowl heater.

Scene Video Review

There were several Sweetwater County Sheriff's Office personnel who responded to the fire incident. The response was recorded by body and vehicle mounted cameras.

The video Axion 2022-02-01 Axon Flex 2 X83117146 (Officer Hansen Body Camera) was reviewed. The following are observations of the condition of the fire and the structure:

• No fire was present at the south, east, and west exteriors of the structure. Smoke was ventilating from the gable end attic vents at the east and west exteriors of the attic. All windows and doors to the structure are closed except for the exterior door to the garage. Smoke had vented from the kitchen door and exterior garage door. Flames were observed at ground level at the location below the window for Bedroom #4. Flames were observed around the window, eaves, and roof of Bedroom #4. The shed had been mostly consumed by the fire and its shape is no

longer identifiable. The overhead service drop conductors have severed from the weatherhead at the north exterior of the structure.

- Fire department personnel's first attempt to extinguish the fire occurred at approximately 4:44 a.m. The water is used to extinguish the fire on the north side on the ground and around the Bedroom #4 window.
- Smoke vented from the living room center window at 4:46 a.m. and along the eaves
 of the roof. Flames became visible in the living room windows at approximately
 5:00 a.m. and the flames begin to increase in size and intensity. The fire then
 began to vent from the living room windows. Flames appear at the west attic vent
 at approximately 5:34 a.m.

The video Axion 2022-02-01 Axon Fleet 2 X54000841 (Officer Hansen Vehicle Camera) was reviewed. The following are observations of the conditions of the fire and the structure:

• The vehicle is parked at the southwest corner of the structure. Flames in the living room become visible at approximately 5:00 a.m. The fire continues to grow in size and intensity. Flames begin to exit the attic at the west gable at 5:34 a.m.

The video Axion 2022-02-01 Axon Flex 2 X83117281 (Officer Merrell – Body Camera). The following are observations of the conditions of the fire and the structure:

 This video contains the witness statements of Kamille Wadsworth, Gunner Wadsworth, and Lane Wadsworth as discussed above.

Video named Axion 2022-02-01 Axon Flex 2 X83038327 (Officer Kaumo – Body Camera). The following are observations of the conditions of the fire and the structure:

This video is similar to the video of Officer Hansen. Sweetwater County Fire District
 1 personnel arrived at 5:40 a.m.

Review of Detective Jeff Sheaman Investigation Reports

The Supplemental Narrative of the Sweetwater County Sheriff incident report number S22-01535 authored by Detective Jeff Sheaman S22-01535 was reviewed. The following information was obtained from this review:

- The report indicated that Detective Jeff Sheaman observed a V pattern, along the south interior wall of the bedroom and south interior wall of the hallway, that indicated the fire originated near Bedroom #4 doorway.
- While observing electrical wiring and components in the bedroom and closet,
 Detective Jeff Sheaman found nothing suspicious. He also noticed that an outlet (receptacle) located along the west interior wall of Bedroom #4 had melted plastic covering the lower plug holes and wire coming out of the melted plastic.
- The report indicated witness statements made by Mr. Pasborg indicated that he saw flames coming out of the window. This is a mischaracterization of Mr. Pasborg's witness statements during the interview. The interview with Mr. Pasborg indicated that when he arrived at the house, he saw the dry grass on fire, and the flames were going up the side of the exterior wall.
- The report included a summary of information obtained during the interview with the children. The report did not include all witness statements including those that indicated that the fire originated at the exterior of the structure. Only selective witness statements were included in the report.

Review of Detective Jeff Sheaman Deposition

The deposition of Detective Jeff Sheaman from the Sweetwater County Sheriff's Office conducted on February 2, 2024, was reviewed. Detective Jeff Sheaman conducted a fire investigation on behalf of Sweetwater County Sheriff's Office. The following is a summary and response to statements made during the deposition:

Detective Jeff Sheaman made several statements about the formation of a V pattern, what can be interpreted from a V pattern, and that a V pattern indicated the origin of the fire. Detective Jeff Sheaman stated that a V pattern occurred on the south interior wall of Bedroom #4, the V pattern continued on the south interior wall of the hallway, and that the inverted cone pattern on the west interior wall of Bedroom #4 was an extension of the V pattern along the south interior wall of Bedroom #4.

There is no V pattern on the south and west interior walls of Bedroom #4. The inverted cone pattern along the west interior wall of Bedroom #4, and the ventilation pattern on the south wall of the bedroom were incorrectly identified and interpreted by Detective Jeff

Sheaman. The fire pattern on the west interior wall above the location of the hoverboard has geometry consistent with an inverted cone pattern. The inverted cone pattern is consistent with the fuel package of the hoverboard. Inverted cone patterns are caused by vertical flames plumes not reaching the ceiling. Notwithstanding, Detective Jeff Sheaman incorrectly identified the ventilation pattern as a V Pattern. A V pattern is not evidence of the origin of the fire. A V pattern is a pattern that is developed when the vertical wall intersects the fire plume. This pattern can aid the investigator in the fuel package heat release rates (HRR), the geometry of the fuel, and the location of the fuel package within the room or compartment. NFPA 921 warns the investigator of the limitations of V pattern interpretation and a V pattern is not necessarily associated with the origin of the fire.

Detective Jeff Sheaman opined that the formation of a protected area below the hoverboard is consistent with a fire origin at the hoverboard.

A protected area pattern below the base of a V pattern is not consistent with the origin of the fire. This is an inaccurate interpretation of fire patterns. NFPA 921 does not state that a V pattern and protected area together are an indication of the fire's origin. There is no known scientific literature that is consistent with this opinion. The author of this report has never received any training that would be consistent with these two patterns together that indicated the origin of the fire. In fact, if the fire originated at the hoverboard, it would be expected that the hoverboard's combustible components would be mostly or fully consumed in the fire. Internal wire insulation and other internal components of the hoverboard were not all fire damaged. The lack of extensive fire damage to the internal components of the hoverboard is not consistent with a fire origin at the hoverboard.

Detective Jeff Sheaman opined that had a fire originated at the exterior of the structure at the shed, that the shed would produce a similar V pattern along the exterior wall.

This interpretation of the formation of the V pattern by the shed is inaccurate. A V pattern is produced during the fire because of the presence of horizontal surfaces such as ceilings. Since the shed is at the exterior of the structure, no V pattern will form along the exterior of the wall since there is no horizontal surface to cause changes in the fire plume. There may be a small formation of the V pattern along the north exterior wall from the burning of the shed due to the eave of the structure. However, the shed location would have only placed a small portion of the shed under the eave and the plume that is

generated during the burning of the shed. The pattern generated around the window was from the effects of ventilation and the interaction of the eave from smoke and fire exiting the window once a fire developed at the interior of the bedroom.

Detective Jeff Sheaman opined that the hoverboard was plugged into the Bedroom #4 west interior wall receptacle. He stated that there was a melted plastic piece with wires protruding from the receptacle. Detective Jeff Sheaman stated that the wires could not be traced from the receptacle due to the extensive fire damage.

The receptacle Detective Jeff Sheaman referred to is the receptacle for the refrigerator on the east interior of the kitchen behind the refrigerator. There were two receptacles within the interstitial wall space between Bedroom #4 and the kitchen. The lower receptacle faced Bedroom #4, and the upper receptacle faced the kitchen. Plugged into the kitchen receptacle was the power cord for the refrigerator. The plastic face of the receptacle was intact with fire damage, and a melted plastic piece was connected to the lower side of the duplex receptacle. Protruding from the receptacle were two conductors for the refrigerator power cord that was still connected to the refrigerator. Fire damage occurred to the Bedroom #4 west interior wall receptacle. The face of the receptacle was consumed by the fire, there was no melted plastic piece attached to the receptacle, and there were no wires protruding from the receptacle. Detective Jeff Sheaman incorrectly identified the two receptacles. The power cord for the refrigerator was still intact with some fire damage. That power cord for the refrigerator was traced from the kitchen receptacle to the refrigerator. There is no evidence that any power cord was plugged into the bedroom receptacle including the hoverboard.

Detective Jeff Sheaman opined that a fire that originated at the hoverboard could grow and develop within the bedroom, develop a smoke and heat layer sufficient enough to break the window, yet not injure Gunner Wadsworth while he was on his bed.

This is not consistent with known evidence of how a window breaks and the development of the fire within the bedroom. The fire growth within the bedroom from a fire that originated at the hoverboard would be inconsistent with the development of a fire in the bedroom, the breaking of the windowpane, and the survivability of the tenants of the bedroom.

Detective Jeff Sheaman opined that the shed was plastic, that it was not combustible, and it would melt.

The shed is made of polyethylene. Polyethylene has a flashpoint of 645 degrees Fahrenheit, and an auto-ignition temperature between 626 and 770 degrees Fahrenheit. Combustible materials are those materials that are capable of burning and have a flash point above 100 degrees Fahrenheit. Polyethylene is capable of burning. Mr. Sheaman's statement that the plastic shed would melt and is not combustible is inaccurate. Burn testing of an exemplar shed was consistent with the ability of the plastic shed to burn rather than melt and impact the window and overhead service drop conductors.

Detective Jeff Sheaman opined that witness interviews were consistent with a fire origin at the interior of the structure.

Detective Jeff Sheaman's interview clearly indicated that the children had indicated that the fire originated at the exterior of the structure. In fact, the witness statements were consistent with a fire origin at the exterior. Furthermore, the witness statements of fire that originated at the interior of the structure are not consistent with fire pattern analysis, arc mapping analysis, fire dynamics, burn testing of an exemplar shed, and fire modeling.

Detective Jeff Sheaman's opinion that the fire originated at the hoverboard is inaccurate. His investigation did not meet the requirements set forth in NFPA 921. Mr. Sheaman's interpretation of fire patterns are not consistent with NFPA 921. His methodology used to determine the origin and cause of the fire is not consistent with NFPA 921. Detective Jeff Sheaman's opinion that the fire originated at the hoverboard in Bedroom #4 failed to meet the requirements of the overall methodology of fire investigations. The selection of the final hypothesis must include the coordination of witness information and electronic data, fire patterns, and fire dynamics. Detective Jeff Sheaman failed to coordinate witness statements, fire patterns, timelines, and fire dynamics that were consistent with an exterior fire origin hypothesis. Mr. Sheaman was unaware that a plastic shed existed at the exterior until after his site investigation, did not review any of the body camera and vehicle camera videos, was not aware of the additional arc survey and arc mapping analysis results, was not aware of the lack of tripped circuit-breakers in within the circuit-breaker panel, incorrectly identified the receptacles in Bedroom #4 and kitchen, and

incorrectly identified fire patterns. The failure to apply this known data fails the overall methodology and results in the improper final selection of an origin hypothesis.

Review of Fire Chief Bill Robinson's Deposition

The deposition of Fire Chief Bill Robinson with the Green River Fire Department conducted on November 15, 2023, was reviewed. Fire Chief Robinson investigated the fire for the Green River Fire Department. Fire Chief Robinson agreed with Mr. Sheaman as to the origin of the fire. Fire Chief Robinson was provided additional evidence and data during the deposition in regard to the location of the shed, potential ignition sources around the shed, arc mapping analysis, and witness statements. Fire Chief Robinson opined based upon the new information, that the additional information would warrant further investigation and agreed the fire origin should be undetermined.

Review of M.J. Schulz & Associates Report

The M.J. Shulz & Associates, Inc. Report of Forensic Investigation and Analysis authored by Mr. Michael J. Shulz, dated July 15, 2024, was reviewed. The report did not comply with ASTM E620-18, *Standard Practice for Reporting Opinions of Scientific or Technical Experts*, and the *National Fire Protection Association (NFPA) 921, Guide for Fire and Explosion Investigation*. The 88-page explanatory report discussed fire investigation procedures and requirements, and briefly described the Author's conclusions as to the origin and cause of the fire but did not provide any analysis of the determination of the origin of the fire. The report failed to include pertinent observations, comprehensive witness statements, fire patterns, fire dynamics, sequential fire pattern analysis, arc mapping analysis, and an analysis of the final selection of the origin hypothesis.

The report failed to provide a discussion on pertinent observations included in the Author's analysis of the fire's origin. These observations include but are not limited to fire patterns, timeline and sequence of events, the shed location, condition and damage of the shed, identification of potential ignition sources near the shed, evidence of arcing within the shed, the loss of the overhead service drop, and lack of electrical arcing at the interior of the structure.

The report failed to provide comprehensive witness statements including statements that the fire originated at the exterior by Kamille Wadsworth, conditions of the shed, and description of the fire by Mr. Pasborg during the incident. The report did not include all statements made during the formal interview with Kamille Wadsworth, Gunner Wadsworth, Layne Wadsworth, and Mr. Pasborg that indicated the fire originated at the exterior of the structure. The report failed to reconcile witness statement discrepancies with known evidence such as the window failure while Gunner Wadsworth was present at the top bunk, arc mapping analysis, and fire dynamics analysis. The witness statements at a minimum should have warranted further investigation regarding the shed location, possible alternative origin hypothesis, and identification of potential ignition sources at the exterior of the structure.

The report failed to provide a discussion and analysis of fire patterns, sequential patterns, fire dynamics, and fire spread analysis. The report did not include any fire pattern identification and interpretation including plume, ventilation, hot gas layer, full room involvement, or suppression-generated patterns. The report did not include any sequential fire pattern analysis that aided the author in determining when the fire patterns were produced during the history of the fire. The report did not include any analysis of fire dynamics and how the fire interacted with the structure's systems. The report failed to address the fire spread analysis that the author relied upon to determine if the fire damage and available data were consistent with the area of origin hypothesis.

The author's conclusion that the fire originated at the hoverboard in Bedroom #4 failed to meet the requirements of the overall methodology of fire investigations. The selection of the final hypothesis must include the coordination of witness information and electronic data, fire patterns, and fire dynamics. The author failed to coordinate witness statements, fire patterns, timelines, and fire dynamics that were consistent with an exterior fire origin hypothesis. The lack of applying this known data fails the overall methodology of fire investigations and results in the improper final selection of an origin hypothesis.

Analysis

The fire originated at the plastic shed located below the Bedroom #4 window along the north exterior wall of the structure. The fire began at the interior of the shed, spread throughout the shed until it impinged the window and the overhead service drop conductors, impinged the window until failure, and then spread to the interior of the structure through the Bedroom #4 window. The fire then developed and spread within the

structure until the fires were extinguished by the fire department. The determination of the origin of the fire involves the coordination of information derived from witness statements, fire patterns, and fire dynamics. Arc mapping is considered a fire pattern and can also be used in the determination of the spatial space in which the fire originated. Fire dynamics analyses can be used to evaluate the origin hypotheses by use of fire modeling.

Witness statements provided by Ms. Wadsworth, Kamille, Gunner, and Layne Wadsworth, and Mr. Pasborg were consistent with the origin of the fire at the shed. These statements include the fire conditions of the bedroom at the time of discovery, the fire conditions in the structure prior to exiting the structure, the loss of Bedroom #4 window, exterior fire conditions upon attempting to leave the structure, and the fire conditions of the shed. The witness statements that were inconsistent with an exterior fire origin were not consistent with fire pattern analysis, fire dynamics analysis, arc mapping, and fire modeling.

Fire pattern analysis indicated that the fire originated at the exterior of the structure. Since fire patterns represent the total history of the fire, sequential pattern analysis is required to assess the relevance of any individual fire effect. The fire patterns at the exterior of the structure are consistent with a fire developing and progressing from the shed. This included the columnar fire pattern present along the north exterior wall from the burning of the shed. Fire pattern analysis was consistent with fire progression from the shed, into Bedroom #4 through the window, then progressed into the bedroom. The fire then developed and spread in the bedroom, then exhausted through the window and bedroom door into the remaining portions of the structure. The increased fire damage at the west side of Bedroom #4 was consistent with ventilation effects and the flow path from the window to the bedroom door. The increased damage to the area around Bedroom #4 and hallway was consistent with ventilation effects rather than any pointer and arrow patterns or V patterns.

Arc mapping analysis is consistent with the origin of the fire at the interior of the shed. Arc mapping analysis is a form of fire pattern that can aid in the determination of the origin of the fire. Located from the utility pole at the northeast of the structure was the overhead service drop routed to the weatherhead located along the north exterior wall west of the shed. The shed was located below the overhead service drop conductors. An electrical arc occurred at the portable electric heater extension/power cord located at the interior of

the shed. The overhead service drop conductors were severed due to the fire burning below the overhead service conductors. A burn test of an exemplar shed indicated that the shed is capable of burning and will produce flame heights sufficient to impact the overhead service drop conductors causing them to melt and severe. Once electrical power is disconnected, no arcing can occur on any component that is connected to the buildings fixed electrical system. This is consistent with the absence of any electrical arc event within the structure. It was determined that the arc at the extension cord and power cord for the portable electric heater in the shed occurred first, then followed by the loss of power to the structure. Arc mapping analysis is not consistent with a fire origin at the interior of the structure.

Fire dynamics analysis is consistent with a fire origin at the exterior of the structure. Fire dynamics analysis was consistent with a fire origin at the shed, impacted the window, breaking the window, severed the overhead service drop conductors, and progressed into the bedroom through the bedroom window. The fire then developed and spread within the bedroom and remaining portions of the structure until the fires were extinguished by the fire department. Then the fire developed within the structure and spread from the natural outgrowth of a fire within the bedroom. The window failure, and the presence of Gunner and Layne Wadsworth within the bedroom, is consistent with an exterior fire origin. The window failure resulted from flame and heat impingement at the exterior of the windowpane. For this to occur from the interior, a significant fire must develop within the room of origin capable of breaking the window. The presence of Gunner and Layne Wadsworth is not consistent with the development of a fire within the bedroom to break the bedroom window before injuring the occupants of the room. Furthermore, the pressures within the room are generally not sufficient to break a window.

Fire models are consistent with an origin hypothesis at the exterior of the structure, rather than an interior fire origin at Bedroom #4. Burn tests of an exemplar shed are consistent with the shed capable of burning and producing flames, and fire plumes reaching the overhead service drop conductors and Bedroom #4 window.

The probable cause of the fire was the ignition of combustible materials from heat generated by the smoldering coal of an improperly discarded cigarette that ignited adjacent combustible materials. Ms. Wadsworth admitted to smoking a cigarette approximately 2 to 3 hours prior to the fire. Cigarettes burn in two modes including static

smoldering and forced smoldering. The temperature of the cigarette coals during static and forced smoldering can range from 1202- to 1562- degrees Fahrenheit. Based on temperature, the coal temperature of the cigarette is a sufficient ignition source for combustible materials within the shed. However, the cigarette may not have sufficient ignition energy to ignite the polyethylene or rubber floor of the shed.

The opinions expressed by Detective Jeff Sheaman with the Sweetwater County Sherriff as to the origin and cause of the fire are inaccurate. The opinions are not consistent with witness statements, proper identification of fire patterns, dynamics of fire development, arc mapping analysis, overall methodology of fire investigations, and all known data.

The opinions expressed by Mr. Shulz with M.J. Schulz & Associates as to the origin and cause of the fire are inaccurate. The opinions are not consistent with witness statements, proper identification of fire patterns, dynamics of fire development, arc mapping analysis, overall methodology of fire investigations, and all known data.

Section IV BASIS OF REPORT

- An inspection of the fire-damaged structure and analysis of fire patterns, sequential fire pattern analysis, fire dynamics analysis, and arc mapping analysis were conducted.
- 2. An inspection of the structure's fixed electrical system and gas systems was conducted.
- 3. An examination of the evidence items collected from the fire scene was conducted.
- 4. The Sweetwater Fire District 1 incident report number 2022-28, the Green River Fire Department incident report number 2022-46, and the Sweetwater County Sheriff incident report number S22-01535, were reviewed.
- 5. The Sweetwater County Sheriff's Office videos named Axon Flex 2 X83117146, Axon Fleet 2 X54000841, Axon Flex 2 X83117281, Axon Flex 2 X83038327, were reviewed.
- 6. The telephone interview with Matthew Wadsworth conducted by Sweetwater Sheriff Officer Jeff Sheaman was reviewed.
- 7. The interviews of Mr. Ryan Pasborg, Kamille Wadsworth, Gunner Wadsworth, and Layne Wadsworth conducted by Officer Ashley Merrell with the Sweetwater County Sheriff's Office recorded on February 1, 2022, were reviewed.
- 8. The interview with Mr. Ryan Pasborg conducted by Detective Jeff Sheaman with the Sweetwater County Sheriff's Office on February 1, 2022, was reviewed.
- 9. The interviews with Mr. Matthew Wadsworth, Kamille Wadsworth, Gunner Wadsworth, Layne Wadsworth, and Weston Wadsworth conducted by Detective Jeff Sheman with the Sweetwater County Sheriff on March 4, 2022, were reviewed.
- 10. The depositions of Mr. Matthew Wadsworth, Ms. Stephanie Wadsworth, Kamille Wadsworth, Gunner Wadsworth, Layne Wadsworth, Weston Wadsworth, and Mr. Ryan Pasborg, were reviewed.

- 11. The depositions of Sweetwater County Sheriff Jeff Sheaman, Green River Fire Department Fire Chief Larry Erdman, Green River Fire Department Fire Chief Bill Robinson, Green River Fire Department Captain JP Apostolope, Sweetwater County Fire District 1 Jake Ribordy, Sheriff Officer John Hansen, Sheriff Officer Richard Kaumo, Sheriff Officer Ashley Merrell.
- 12. Incident photographs, Sweetwater County Sheriff's Office investigation photographs, Christmas photograph named 22-01535 Christmas 2021, realtor pre-fire photographs, Advanced Engineering Investigations scene photographs, Rimkus photographs, and laboratory x-ray and microscopic photographs, were reviewed.
- 13. IC Specialty Services artifact/evidence logs for File Number 22-39937, were reviewed.
- 14. The Matterport scan, https://my.matterport.com/show/?m=ATLJfpjEUke, was reviewed.
- 15. The Advanced Engineering Investigations FTIR laboratory data was reviewed.
- 16. A review of the Consumer Product Safety Commission website, https://www.cpsc.gov, was reviewed for any potential recall notices.
- 17. The interview with Mr. Matthew Wadsworth was conducted during the August 2 and 3, 2022, joint inspection was reviewed.
- 18. The Berkeley Engineering and Research, Inc. Expert Report by Mr. Derek King, dated July 12, 2024, was reviewed.
- 19. The M.J. Schulz & Associates, Inc. Report of Forensic Investigation and Analysis by Mr. Michael J. Shulz, dated July 15, 2024, was reviewed.
- 20. The National Fire Protection Association (NFPA) 921, Guide to Fire and Explosion Investigations, 2021 edition was reviewed.
- 21. The National Fire Protection Association (NFPA) 921, Guide to Fire and Explosion Investigations, 2024 edition was reviewed.
- 22. The American Society for Testing and Materials E620-18, Standard Practice for Reporting Opinions of Scientific or Technical Experts, was reviewed.

- 23. The IPS INCHEM Polyethylene Safety Data Sheet (SDS), dated October 2004 was reviewed.
- 24. The article, *The science behind the development and performance of reduced ignition propensity cigarettes*, By Richard R. Baker, Steven Coburn, Chuan Liu, and Kevin McAdam in the Fire Science Reviews-Spring Open Journal was reviewed.
- 25. The Ignition Handbook by Vytenis Babrauskas (2003) was reviewed.
- 26. Smoldering Fires by Vytenis Babrauskas (2021) was reviewed.
- 27. Historical weather was reviewed for February 1, 2022, for Rock Springs, Wyoming at https://www.wunderground.com/history was reviewed.
- 28. The Eagle, Polyethylene Outdoor Storage Drum without drain, Yellow 1649, specifications were reviewed.
- 29. The Bomgaars, Comfort Zone Electric Shop Heater, CZ250 specifications were reviewed.
- 30. A summary of fire modeling conducted by Mr. Greg Gorbet with Fire Dynamics Analysts was provided by Fire Dynamics Analysts and reviewed by Joseph R. Filas.
- 31. The video of the exemplar shed burn test conducted by Mr. Greg Gorbet with Fire Dynamics Analysts was reviewed.
- 32. During our investigation, we applied the methodology of fire investigation using the systematic approach as recommended in the current edition of National Fire Protection Association's NFPA 921 "Guide for Fire and Explosion Investigations" and in compliance with NFPA 1033 "Standard for Professional Qualifications for Fire Investigator".

Section V ATTACHMENTS

- A. Photographs
- B. Diagram
- C. Curriculum Vitae

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Section V ATTACHMENT A

Photographs

Photographs taken during our inspection, including photographs that were not included in this report, were retained in our files and are available to you upon request.

Photograph 1
The north front exterior of the structure.



Photograph 2
The north and west exteriors of the structure.



The west and south exteriors of the structure.



Photograph 4
The south exterior of the structure.



Photograph 5
The west living room windows.



Photograph 6 The south and east exteriors of the structure.



The east exterior of the structure.



Photograph 8
The east and north exteriors of the structure.



The north exterior of the structure. Bedroom #4 window is indicated by the blue arrow. The red box indicates the location of the shed prior to the fire. The service conductors from the weatherhead (red arrow) would have been located over the shed location and routed to the northeast utility pole.



Photograph 10
The remains of the window frame for Bedroom #4 window.



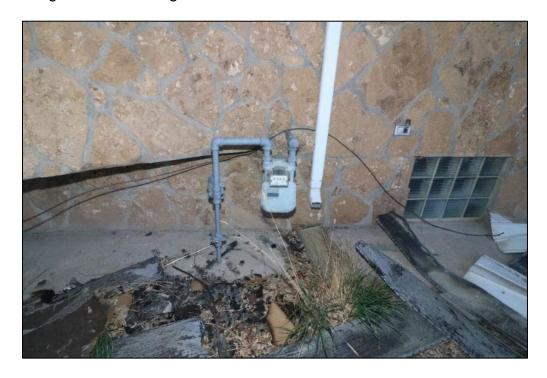
The north exterior of the structure.



Photograph 12
The north exterior of the structure.



The natural gas meter and regulator at the south exterior of the structure.



The remains of the weatherhead, service raceway, and meter base located at the north exterior of the structure.



The main disconnect switch and first circuit-breaker panel located on the north interior wall of the basement.



Photograph 16
The first circuit-breaker panel.



The second circuit-breaker panel.



Photograph 18
The second circuit-breaker panel.



The north interior of the basement.



Photograph 20
The south interior of the basement.



Photograph 21 The garage.



Photograph 22
The doorway from the garage to the kitchen.



Photograph 23 Bedroom #1.



Photograph 24 Bedroom #1.



Photograph 25 Bedroom #2.



Photograph 26 Bedroom #2.



Photograph 27 Bedroom #3.



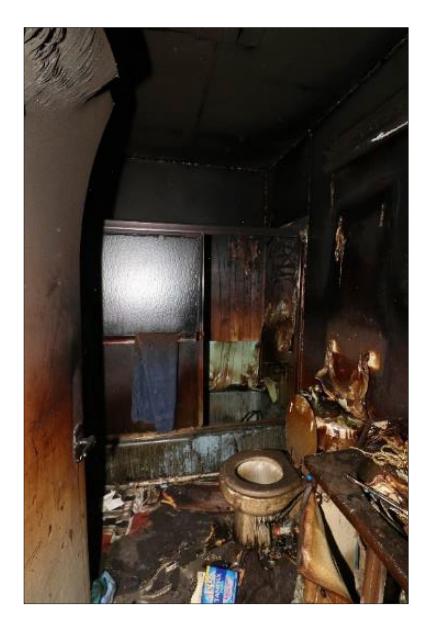
Photograph 28 Bedroom #3.



Photograph 29 Bathroom #1.



Photograph 30 Bathroom #2.



Photograph 31
The east portion of the bedroom hallway as seen while facing east.



Photograph 32
The east portion of the bedroom hallway as seen while facing northwest.



Photograph 33 The kitchen.



Photograph 34 The kitchen.



Photograph 35 The living room.



Photograph 36 The living room.



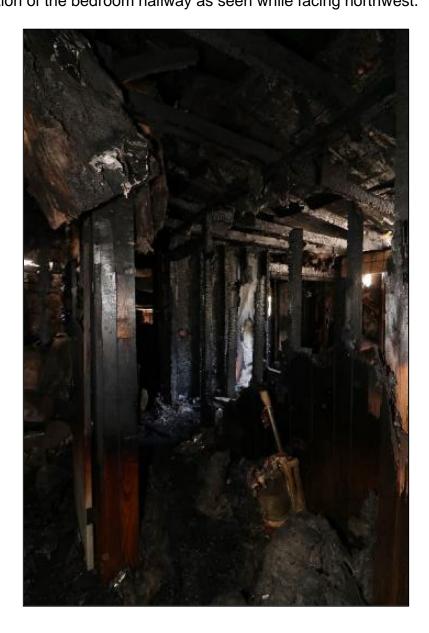
The entrance from the hallway to the living room.



The west portion of the bedroom hallway as seen while facing east.



Photograph 39 The west portion of the bedroom hallway as seen while facing northwest.



The west portion of the bedroom hallway and attic as seen while facing east.



The area of the attic above the bedroom hallway at the location of the ceiling fan.



Photograph 42
The remains of the ceiling fan.



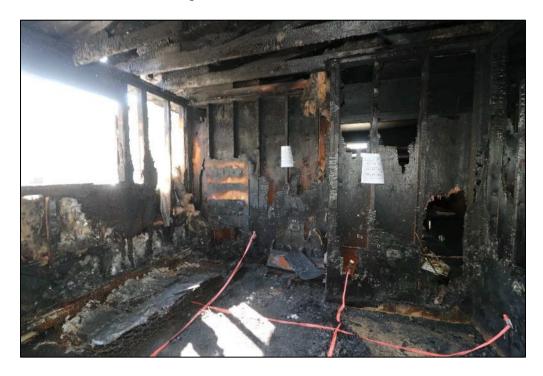
Photograph 43
Bedroom #4 as seen while facing southwest.



Photograph 44
Bedroom #4 as seen while facing west.



Photograph 45 Bedroom #4 as seen while facing east.



Photograph 46
The inverted cone pattern on the west wall.

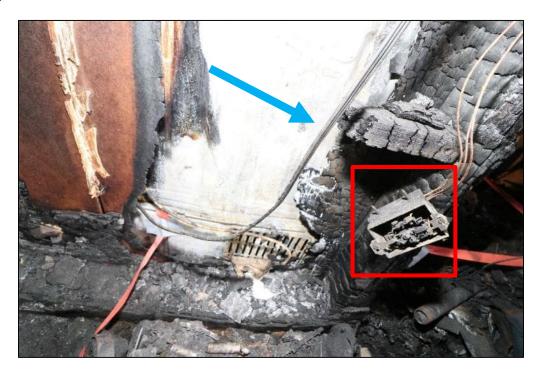


The protected area below the inverted cone pattern indicates the location of the hoverboard.



Photograph 47

The west Bedroom #4 receptacle (red box). The power cord for the refrigerator (blue arrow).



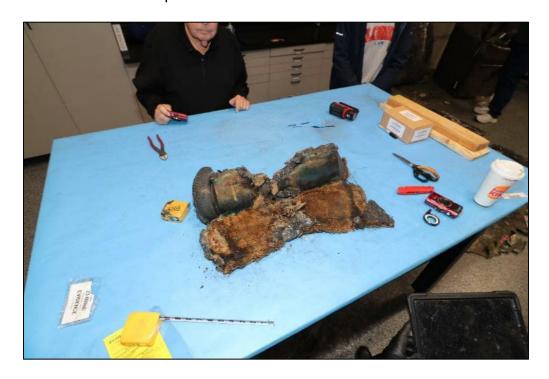
The refrigerator receptacle with two wires protruding from the receptacle. The wires were routed to the refrigerator (blue arrow).



Photograph 49
The remains of the hoverboard.



The protected area of the carpet below the hoverboard and bottom side of the hoverboard.



Photograph 51

Internal components of the hoverboard were fire damaged but still had areas of unburned material within the hoverboard.



The north exterior of the structure. The remains of the shed were discovered on the concrete ground (red arrow).



Photograph 53
The remains of the shed, contents of the shed, and contents around the shed.



The remains of the portable electric heater.



Photograph 55

Evidence of arcing occurred n the extension cord/power cord for the portable electric heater.



The remains of cigarette packaging foil were observed in the shed contents.



Photograph 57
Remains of cigarette packaging foil.



The remains of the ashtray were observed in the contents of the shed.



Photograph 59

The remains of the ashtray had remains of cigarette butts.



Photograph 60 The ashtray.



Photograph 61
The remains of lighters and additional cigarette packaging foil.



The underside of the shed.



Photograph 63
The north exterior wall receptacle.



The remains of the de-icer (red box) and propane tank (blue box).

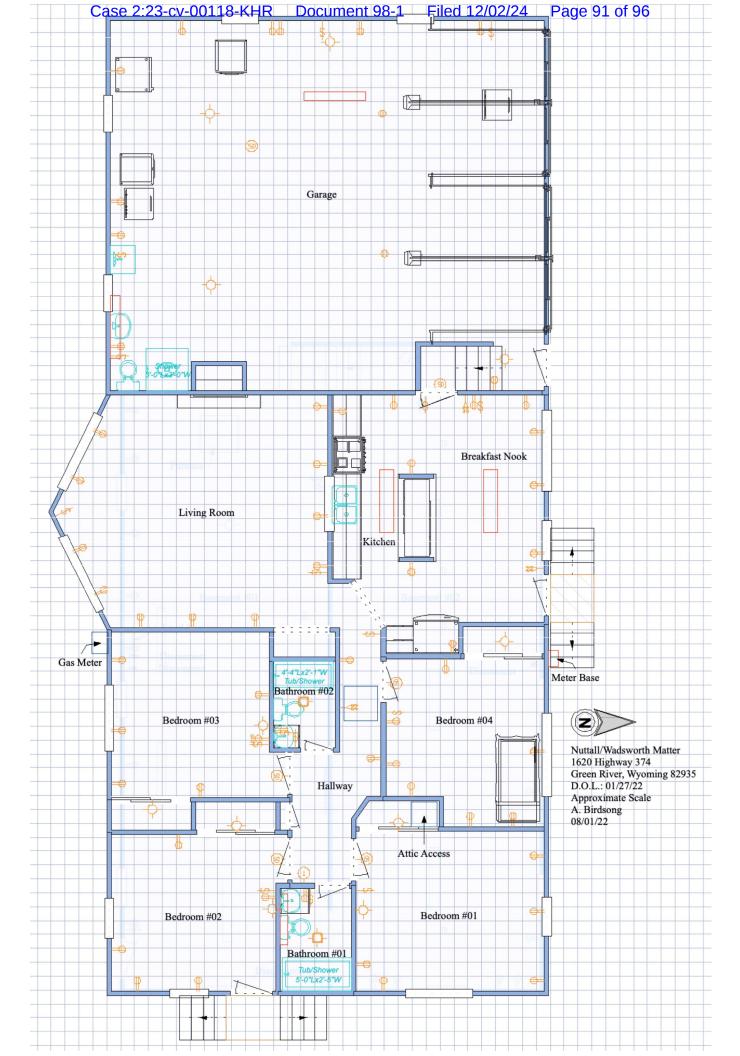


Photograph 65
The remains of the wood-log chair.



Section V ATTACHMENT B

Diagram



Section V ATTACHMENT C

Curriculum Vitae



Joseph R. Filas, IAAI-CFI (V), NAFI-CFEI

Senior Fire Consultant

8100 S. Akron Street, Suite 320 Centennial, CO 80112

Background



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(720) 272-6968 ______ jrfilas@rimkus.com

Mr. Joseph Filas holds a Bachelor of Science degree in Fire and Safety Technology with an emphasis in Fire, Arson, and Explosion Investigation from Eastern Kentucky University. He is a Certified Fire Investigator (CFI), with motor vehicle endorsement, with the International Association of Arson Investigators, a Certified Fire and Explosion Investigator (CFI) with the National Association of Fire Investigators, and a Certified Fireplace Inspector (CFI) with Fireplace Investigation, Research, and Education. He has been recognized as an expert, in both state and federal courts, and has extensive trial and deposition testimony experience.

He has been responsible for the direct management of over 1,700 assignments investigating and analyzing the origin and cause of fire and explosions related to residential and commercial properties, automobiles, heavy equipment, and in the oil and gas industry. His consulting expertise includes the evaluation of commercial kitchen cooking equipment, fire suppression systems, exhaust ducts and fans, and code-required inspections and cleaning services. He is knowledgeable on standard practices regarding fire investigation methodology, fire science, fire dynamics, and evidence collection procedures. His professional experience includes an understanding of building and fire codes and the relation between codes and construction that can contribute to the cause and spread of a fire. He has considerable experience interviewing witnesses and working collaboratively with responding firefighters, state and federal agencies, and other pertinent third-party organizations.

Mr. Filas has expansive knowledge of fireplace and chimney construction and associated building codes, manufacturer-required installation procedures/instructions related to factory built-fireplaces and heating appliances, and code-required inspections of existing fireplaces and chimneys.

Mr. Filas is a member of the International Association of Arson Investigators (IAAI), International Association of Arson Investigators (Colorado Chapter), and the National Association of Fire Investigators (NAFI).



Professional Engagements

Criminal Innocence Project

 Boon, MI (2011-2014), Requested by the Michigan Innocence Clinic to evaluate the origin and cause of the fire, review the investigation and findings of State experts, and provide written affidavits of findings in the People of the State of Michigan vs. Victor John Caminata. Mr. Caminata's 2008 Arson conviction was vacated in 2014 as a result of findings.

Emergency Medical Technician

Suffolk, VA (1995-2000), Volunteered at Bennett's Creek Volunteer Rescue Squad. Worked collaboratively
with emergency service and fire department personnel in responding to dispatched calls including medical
emergencies, fires, and auto accidents. Provided pre-hospital urgent care, life support, and patient transport.

Forensic Engagements

Fire, Arson, and Explosion Investigations

Commercial Building – Grand Junction, CO (April 2012), Investigated a commercial fire originating from a
vehicle that severely fire damaged and collapsed the Ed Bozarth Chevrolet structure. Provided conclusions
and opinions about subject loss that led to the successful conclusion of the case.

Code Compliance

Residential Structure Fire – Wauwatosa, WI (February 2011), Evaluated code compliance and manufacturerrequired installation procedures regarding the improper installation of the fireplace. Testified how the
installation defects and aftermarket product additions caused the fire that led to the successful conclusion of
the case.

Professional Experience

• Rimkus 2007 – Present

Senior Fire Consultant

Conduct fire, arson, and explosion investigations including residential, commercial, industrial, oil and gas industry, heavy equipment, and automobile losses for insurance companies, manufacturers, and law firms. Consulting and expert witness services for litigation-related matters involving fire and explosion origin and cause, fire injury or death, and product liability. Inspections of fire detection, suppression, and extinguishing systems. Management, supervision, and tracking of case-related physical evidence. Development and presentation of training courses, including live-burn demonstrations, related to fire investigations for adjusters, law firms, and manufacturers.

Applied Technical Services, Inc.

2007

· Fire Consultant - Fire Division

Conduct fire, arson, and explosion investigations including residential, commercial, industrial, heavy equipment, and automobile losses for insurance companies, manufacturers, and law firms. Consulting and expert witness services for litigation-related matters involving fire and explosion origin and cause, fire injury or death, and product liability. Inspections of fire detection, suppression, and extinguishing systems. Consulting services to the insurance and legal professions. Management, supervision, and tracking of case-related physical evidence.



• Rimkus 2001 – 2007

· Fire Consultant - Fire Division

Conduct fire, arson, and explosion investigations including residential, commercial, industrial, oil and gas industry, heavy equipment, and automobile losses for insurance companies, manufacturers, and law firms. Consulting and expert witness services for litigation-related matters involving fire and explosion origin and cause, fire injury or death, and product liability. Inspections of fire detection, suppression, and extinguishing systems. Write company policies on the management, supervision, and tracking of physical evidence while in the possession of company. Management, supervision, and tracking of case-related physical evidence. Development and presentation of training courses related to fire investigations for adjusters, law firms, and manufacturers.

• Interscience, Inc. 2000 – 2001

Fire Investigator/Loss Analyst – Fire Division
 Conduct fire, arson, and explosion investigations on residential, commercial, marine, and automobile losses for insurance companies and law firms in the state of Florida.

Education and Certifications

- Fire and Safety Technology, B.S.: Eastern Kentucky University (1999)
- Certified Fireplace Inspector (CFI): Fireplace, Investigation, Research, and Education Service (2008)
- Certified Fire Investigator (CFI (V)): International Association of Arson Investigators (2006)
- Certified Fire & Explosion Investigator (CFEI): National Association of Fire Investigators (1999)
- Licensed Private Detective: Arizona
- Licensed Private Investigator: Montana, Nevada, Texas, and Washington

Continuing Education

- CFITrainer.net (IAAI): Knowledge 1 Motor Vehicle Fires Tier 1; Investigating Motor Vehicle Fires; Motor Vehicles: The Engine and the Ignition, Electrical, and Fuel Systems; Motor Vehicles: Transmission, Exhaust, Brake, and Accessory Systems; Fire Protections Systems; Using Resources to Validate your Hypothesis; Residential Electrical Systems; Explosion Dynamics; NFPA 1033 and Your Career; Investigating Natural Gas Systems; The Potential Value of Electronic Evidence in Fire Investigations; NFPA 921 and 1033 2014 Editions: Important Revisions; Critical Thinking Solves Cases; Fundamentals of Residential Building Construction; Documenting the Event; Fundamentals of Interviewing; Testimony Course
- **HPBE Expo:** Codes, Standards and Installation Instructions: The Black and White of Hearth Installations; National Fireplace Institute Gas Review Class; National Fireplace Institute Woodburning Review Class
- IAAI/NAFI: 65th IAAI International Training Conference; 41st Southeastern Arson Seminar, Georgia Fire Investigators Association; 23rd Annual Fire and Arson Investigation School; 40th Southeastern Arson Seminar, Georgia Fire Investigators Association, National Advanced Fire, Arson, and Explosion Investigation Seminar, NAFI
- Other: Fundamentals of Motor Vehicle Fire Investigation, Society of Automotive Engineers; Prevention and Investigation of Commercial Kitchen Fires, International Code Council; Investigating Solid Fuel-Burning Appliance Fires, Fire-Findings; Deposition and Trial Testimony Training, Rimkus Consulting Group, Inc.; Fireplace Inspection, FP-01/FP-02/FP-03, Fireplace Investigation, Research, & Education Service; Investigation of Gas and Electrical Appliance Fires, Fire-Findings; Product Failure Analysis, Rimkus Consulting Group, Inc.; Certified Fire Protection Specialist Primer Course, NFPA; Fire Investigators Conference, Professional Arson CO-OP of Florida



Publications

- "The Modern Fireplace: The Complexity of Factory-Built Fireplace Fire Investigations." Colorado Claims, Volume 8, Number 2, July 2010, pp. 1-4.
- "Factory-Built Fireplace Fires: Why the Cozy Fire goes Awry." Property & Liability Resource Bureau: Test Your Claims Knowledge, 2013.